Serial No. : 10/822,591 Filed : April 12, 2004 Page : 4 of 16

## Amendments to the Claims

This listing of claims replaces all prior versions and listings of claims in the application.

## **Listing of Claims**:

- 1. (Currently amended) A method of identifying a candidate compound that modulates mammalian ΔTRα2 polypeptide activity, the method comprising:
  - a) obtaining a mammalian  $\Delta TR\alpha 2$  polypeptide
  - b) contacting the  $\Delta TR\alpha 2$  polypeptide with a test compound, and
- c) assaying for binding of the test compound to the  $\Delta TR\alpha 2$  polypeptide, wherein binding indicates that the test compound is a candidate compound.
- 2. (Currently amended) A method of identifying a candidate compound that modulates mammalian ΔTRα2 polypeptide activity, the method comprising:
  - a) obtaining a mammalian  $\Delta TR\alpha 2$  polypeptide bound to a  $\Delta TR\alpha 2$  ligand,
- b) contacting the- $\Delta TR\alpha 2$  polypeptide bound to the  $\Delta TR\alpha 2$  ligand with a test compound, and
- c) measuring the displacement of the  $\Delta TR\alpha 2$  ligand from the  $\Delta TR\alpha 2$  polypeptide, wherein displacement indicates that the test compound is a candidate compound that modulates  $\Delta TR\alpha 2$  polypeptide activity.
- 3. (Currently amended) A method of identifying a candidate compound that modulates  $\underline{\text{mammalian}} \Delta TR\alpha 2$  polypeptide activity, the method comprising:

Serial No.: 10/822,591 Filed: April 12, 2004

Page : 5 of 16

a) obtaining a test sample containing a <u>cell expressing a mammalian  $\Delta TR\alpha 2$ </u> polypeptide,

- b) incubating the test sample with a test compound, and
- c) assaying the test sample containing the test compound for an alteration in type II 5' deiodinase (D2) activity, such that a test compound that alters D2 activity when compared to a test sample that was not incubated with the test compound is a candidate compound.
- 4. (Original) The method of claim 3, wherein the test compound decreases the amount of D2 activity.
- 5. (Currently amended) A method of identifying a candidate compound that modulates mammalian ΔTRα2 polypeptide activity, the method comprising:
  - a) obtaining a test sample containing a mammalian  $\Delta TR\alpha 2$  polypeptide,
  - b) performing an actin binding assay with the test sample in the presence of a test compound, such that a test compound that alters the binding of p29 vesicles to F-actin when compared to a test sample that was not incubated with the test compound is a candidate compound.
  - 6. (Original) The method of claim 1, wherein the test compound is a flavone.
- 7. (Currently amended) The method of <u>claim</u> 2, wherein the test compound is a flavone.

Serial No.: 10/822,591 Filed: April 12, 2004

Page : 6 of 16

8. (Original) The method of claim 3, wherein the test compound is a flavone.

- 9. (Original) The method of claim 5, wherein the test compound is a flavone.
- 10. (Original) The method of claim 1, wherein the test compound is an aurone.
- 11. (Currently amended) The method of claim 2, wherein the test compound is an aurone.
- 12. (Currently amended) The method of claim 3, wherein the test compound is an aurone.
- 13. (Currently amended) The method of claim 5, wherein the test compound is an aurone.
  - 14. (Original) The method of claim 1, wherein the test compound is a T4 analog.
  - 15. (Original) The method of 2, wherein the test compound is a T4 analog.
  - 16. (Original) The method of claim 3, wherein the test compound is a T4 analog.
  - 17. (Original) The method of claim 5, wherein the test compound is a T4 analog.

Filed : April 12, 2004

Page : 7 of 16

## 18. -45. (Cancelled)

- 46. (New) The method of claim 1, wherein the  $\Delta TR\alpha 2$  polypeptide comprises an amino acid sequence that is at least 95% identical to the full length of SEQ ID NO:5 and can bind myosin.
- 47. (New) The method of claim 2, wherein the  $\Delta TR\alpha 2$  polypeptide comprises an amino acid sequence that is at least 95% identical to the full length of SEQ ID NO:5 and can bind myosin.
- 48. (New) The method of claim 3, wherein the  $\Delta TR\alpha 2$  polypeptide comprises an amino acid sequence that is at least 95% identical to the full length of SEQ ID NO:5 and can bind myosin.
- 49. (New) The method of claim 5, wherein the  $\Delta TR\alpha 2$  polypeptide comprises an amino acid sequence that is at least 95% identical to the full length of SEQ ID NO:5 and can bind myosin.